AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A trap vector comprising a *loxP* sequence and a mutant *loxP* sequence,

wherein the *loxP* sequence comprises in sequential order inverted repeat sequence 1, a spacer sequence, and inverted repeat sequence 2; and

wherein the mutant *loxP* sequence comprises a sequence in which a part of said inverted repeat sequence 1 of *loxP* is mutated such that recombination of the mutant *loxP* occurs more efficiently than the reverse reaction as compared to wild-type *loxP*.

2. (Original) The trap vector of claim 1, wherein the mutant *loxP* is *lox*71.

3. (Previously presented) The trap vector of claim 2, wherein *lox*71 comprises a nucleotide sequence in SEQ. ID. NO.:15.

4. (Currently Amended) A trap vector comprising a *loxP* sequence and a mutant *loxP* sequence, wherein the *loxP* sequence comprises in sequential order inverted repeat sequence 1, a spacer sequence, and inverted repeat sequence 2; and,

the mutant *loxP* sequence comprises a sequence in which a part of said inverted repeat sequence 2 of *loxP* is mutated such that recombination of the mutant *loxP* occurs more efficiently than the reverse reaction as compared to wild-type *loxP*.

5. (Original) The trap vector of claim 4, wherein the mutant *loxP* is *lox*66.

6. (Previously presented) The trap vector of claim 5, wherein *lox*66 comprises a nucleotide sequence shown in SEQ. ID. NO.:16.

7. (Previously presented) A trap vector selected from the group consisting of the following (a) to (i):

(a) SP-SA-*lox*71-IRES-M-*loxP*-PV-SP;

(b) SP-*lox*71-IRES-M-*loxP*-PV-SP;

(c) SA-*lox*71-IRES-M-*loxP*-pA-PV-SP;

(d) SA-*lox*71-IRES-M-*loxP*-*puro*-pA-PV-SP;

(e) *lox*71-M-*loxP*-pA-*lox*2272-PV-*lox*511;

(f) *lox*71-IRES-M-*loxP*-pA-*lox*2272-PV-*lox*511;

(g) (*lox*71-integrated SA)-M-*loxP*-pA-*lox*2272-PV-*lox*511;

(h) (*lox*71-integrated SA)-IRES-M-*loxP*-pA-*lox*2272-PV-*lox*511; and

(i) (*lox*71-integrated SA)-M-*loxP*-pA-*lox*2272-promoter-M-*lox*511-SD;

wherein SP represents any sequence; SA represents a splice acceptor; SD represents a splice donor; IRES represents an internal ribosomal entry site; M represents a marker gene; *puro* represents puromycin resistance gene; pA represents a poly(A) sequence; and PV represents a plasmid vector.

8. (Original) The trap vector of claim 7, wherein the plasmid vector is any one selected from the group consisting of pBR, pUC, pSP and pGEM.

9. (Currently amended) A vector generated from recombination between:

(a) a trap vector comprising a *loxP* sequence and a mutant *loxP* sequence, wherein the *loxP* sequence comprises in sequential order inverted repeat sequence 1, a spacer sequence, and inverted repeat sequence 2; wherein the mutant *loxP* sequence comprises a sequence of which a part of said inverted repeat sequence 1 of *loxP* is mutated; and

(b) a trap vector comprising a *loxP* sequence and a mutant *loxP* sequence, wherein the *loxP* sequence comprises in sequential order inverted repeat sequence 1, a spacer sequence and inverted repeat sequence 2; wherein the mutant *loxP* sequence comprises a sequence of which a part of said inverted repeat sequence 2 of *loxP* is mutated,

wherein recombination of the mutant *loxP* occurs more efficiently than the reverse reaction as compared to wild-type *loxP*.

10. (Previously presented) The vector of claim 9, wherein said vector does not undergo recombination with another *loxP*.

11. (Previously presented) A method of gene trapping, comprising the steps of:

introducing the trap vector of any one of claims 1 to 8 into embryonic stem cells;

culturing the embryonic stem cells;

selecting those cells which exhibit a pattern of single copy integration of the trap vector; and

isolating the trapped gene.

12. (Original) Embryonic stem cells into which the trap vector of any one of claims 1 to 8 is introduced.

13-18. (Canceled)

19. (Currently Amended) A method of gene trapping, said method comprising the steps of:

introducing into embryonic stem cells:

(a) a trap vector comprising a *loxP* sequence, a marker gene and a mutant *loxP* sequence, wherein the *loxP* sequence comprises in sequential order inverted repeat sequence 1, a spacer sequence, and inverted repeat sequence 2; wherein the mutant *loxP* sequence comprises a sequence of which a part said inverted repeat sequence 1 of *loxP* is mutated; ~~and~~ or

(b) a trap vector comprising a *loxP* sequence, a marker gene and a mutant *loxP* sequence, wherein the *loxP* sequence comprises in sequential order inverted repeat sequence 1, a spacer sequence and inverted repeat sequence 2; wherein the mutant *loxP* sequence comprises a sequence of which a part of said inverted repeat sequence 2 of *loxP* is mutated,

wherein recombination of the mutant *loxP* occurs more efficiently than the reverse reaction as compared to wild-type *loxP*;

culturing the embryonic stem cells;

selecting those cells which exhibit a pattern of single copy integration of the trap vector; and

isolating the trapped gene.

20. (New) The method according to claim 19, wherein the trap vector further comprises pA and PV, wherein pA is located downstream of the marker gene.